Disaster Planning/Recovery
California Fires Case Study (2007)
(Maintaining Reliability in Adverse Conditions)
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Mark Adams
Director of Corporate Reliability, Cox Communications, Atlanta
Cox Enterprises

Cox is a 108-year-old-company with a decentralized structure

- $12 Billion in revenue
- 74,000 employees

- Video, Voice and Internet to 5.9M customers, 140K businesses
- 116 auto auction sites globally, 5M autos sold
- 17 daily, 25 non-daily; 1.2M daily circulation
- 15 stations, 2 local cable channels in 11 markets
- 79 radio stations in 18 markets; largest pure-play radio group in U.S.
- World’s largest online auto classifieds, 3M auto listings
Cox Communications at a Glance

- Regional operations in 18 states
- 5.9 million residential and commercial customers:
  - Video
  - Voice
  - Internet
  - Wireless
- Cox Business Services:
  - Video, voice, and internet services
  - Over 140,000 businesses served
- Cox Media
  - $6.7 billion revenue
  - 4th largest cable operator
  - 10th largest U.S. telephone provider
  - Over 20,000 employees
  - Many awards for best service/reliability such as J.D. Powers
2007 California Wildfires
A series of wildfires started burning across Southern California on 10/20:

- Thousands of structures were destroyed.
- Over 500,000 acres (2,000 km²) of land burned from Santa Barbara County to the U.S.–Mexico border.
- Nine people died as a direct result of the fire.
- 85 others were injured, including at least 61 firefighters.
- California declared a state of emergency in 7 California counties where fires were burning.
- President Bush ordered federal aid to supplement state and local response efforts.
- Over 6,000 firefighters fought the blazes.
- Cox Communications provides service in Santa Barbara, Orange County and San Diego.
# San Diego Wildfires Statistics

## San Diego County 2007 Wildfires

<table>
<thead>
<tr>
<th>Fire name</th>
<th>Date / time started</th>
<th>Area burned</th>
<th>Structures destroyed</th>
<th>Injuries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Witch (Creek)</td>
<td>October 21 at 11:00 a.m.</td>
<td>197,990 acres</td>
<td>1040 homes, 414 outbuildings, 239 vehicles, 70 homes damaged, 25 outbuildings damaged</td>
<td>2 deaths, 39 firefighters, 2 civilians</td>
</tr>
<tr>
<td>Harris</td>
<td>October 21 at 9:30 a.m.</td>
<td>90,440 acres</td>
<td>206 homes, 252 outbuildings, 253 structures damaged</td>
<td>5 deaths, 34 firefighters, 21 civilians</td>
</tr>
<tr>
<td>Poomacha (Palomar Mountain)</td>
<td>October 23 at 3:13 a.m.</td>
<td>50,176 acres</td>
<td>143 homes</td>
<td>21 firefighters</td>
</tr>
<tr>
<td>Horno/Ammo</td>
<td>October 24</td>
<td>21,084 acres</td>
<td>206 homes, 2 commercial properties, 40 outbuildings</td>
<td>6 firefighters</td>
</tr>
<tr>
<td>Rice</td>
<td>October 22 at 4:16 a.m.</td>
<td>9,000 acres</td>
<td>1 residence</td>
<td>5 firefighters</td>
</tr>
<tr>
<td>McCoy</td>
<td>October 21</td>
<td>300 acres</td>
<td>1 residence, 1 outbuilding</td>
<td></td>
</tr>
<tr>
<td>Coronado Hills</td>
<td>October 22 at 1:50 a.m.</td>
<td>250 acres</td>
<td>2 outbuildings</td>
<td></td>
</tr>
<tr>
<td>Wilcox</td>
<td>October 23</td>
<td>100 acres</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Thank you to Wikipedia for Fire Statistics*
• Many major roads were closed.

• Nearly all public schools and universities in the San Diego area were closed. Many businesses closed as well.

• Two days into the fires, approximately 500,000 people from at least 346,000 homes were under mandatory orders to evacuate, the largest evacuation in the region’s history.

• County officials say the number of people evacuated exceeded the number evacuated from New Orleans, Louisiana during Hurricane Katrina.

• Residents were notified of evacuations via the Reverse 911 phone call system.
Minimized Impact Through Best Practices

- Business Continuity Planning (be Ready)
- Fault Tolerant Network and Network Planning (be Proactive)
- Comprehensive Network Monitoring (be Informed)
- Disciplined Incident Command Protocol (be Efficient)
- Dedicated Employees (be Enabled)
- Dedication to Customers and the Community (be a Good Neighbor)
BCP Addresses 5 Segments

- Introductory Pages
- Emergency Response
- Incident Management
- Operations Recovery
- Supporting Information/Data

Important Considerations

- Cox Corporate/Local Integration
- Link to Local Government
  - State/County and City
- Link with Federal Government
  - National Coordinating Center
  - Federal Communications Commission

In Addition to Network Operations, the BCP Covers Other Functions such as:

- Call Center: Calls Diverted as Necessary
- Customer Support: Cox Fire Assistance Programs (Free)
- Facilities: Keep Employees Safe & Comfortable
- Human Resources and Community Relations

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Proactive Network Preparedness

• Equipment redundancy and diverse routed ring architecture helps maintain service in the event of fire damage or loss of transport fiber:
  – In addition, be flexible and prepared, you may need to reroute.

• Network back-up power is necessary:
  – Available at the neighborhood level in Cox nodes.
  – Available at the Cox MTC (equivalent of ILEC Central Office).
  – Note: VoIP technologies require home battery back-up as well.
Proactive Network Preparedness

- A significant increase in network traffic occurred (all services).
- Plan and be ready to add capacity to prevent congestion.

**Inbound & Outbound Call Attempts**

**Toll Free and Switch Utilization**

**Cumulative High Speed Data Traffic**

**Video on Demand**
Network Monitoring

• Solid operational support systems in place for network visibility.
• Operations support centers staffed and enabled (tools/methods/procedures):
  – 24/7 local system operations for alarm monitoring of local assets.
  – 24/7 national operations center for alarm monitoring of local and national assets.
• Continuously updated network status and impact details.
• Information flow linked into the incident command structure.
Incident Command and Control

• Standard/disciplined incident command process/procedures in-place.
• Roles and accountabilities established/understood (local/corporate):
  – Incident commander assigned.
  – Subject matter experts assigned.
  – Supporting roles established.
• Command center staffed and coordinating recovery.
• Set communications meetings for management and working groups.
Resources

• It all boils down to having the right resources, doing the right things at the right time!
• Cox has dedicated and determined employees that will do what is required to get the job done!
Helping Our Community

- Assistance at 8 evacuation centers around county (within and outside of Cox footprint).
  - Supplies (food, water, bedding, personal items).
  - Telephone banks for free calling, including long distance in the United States and Mexico.
  - Large video screens to stay informed;
  - High Speed Internet stations.
  - Donation drive with American Red Cross, raised over $48,000 through company, employee and community donations.
  - Volunteers at 3 Local Assistance Centers and Qualcomm.